WHAT IS CLAIMED IS:

1. An electro-optical device comprising:

a first substrate having an insulating surface;

a second substrate opposing said first substrate;

at least one thin film transistor formed on said insulating surface, said thin film transistor comprising source, drain and channel regions;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor;

an organic resin film provided over said thin film transistor and said interlayer insulating film; and

a pixel electrode formed over said organic resin film and connected to said thin film transistor through an opening provided in said organic resin film,

wherein said interlayer insulating film is located between said organic resin film and said channel region of the thin film transistor, and

wherein said thin film transistor comprises silicon and exhibits a peak of Raman spectra, displaced from a peak of single crystalline silicon.

2. A device according to claim 1 wherein said pixel electrode is a transparent conductive film.

3. A device according to claim 1 wherein said inorganic material comprises silicon oxide.

4. A device according to claim 1 wherein said channel region comprises a material selected form the group consisting of silicon, germanium and a combination thereof.

5. A device according to claim 1 wherein said interlayer insulating film is 0.2 to 0.6 μm thick.

6. A device according to claim 1 consisting of 640 x 480 pixels arranged in a matrix form.

7. A device according to claim 1 consisting of 1260 x 960 pixels arranged in a matrix form.

8. A device according to claim 1 further comprising a conductive film formed on said interlayer insulating film and electrically connected to said thin film transistor through a contact hole formed in said interlayer insulating film.

9. A device according to claim 8 wherein said pixel electrode is connected to said thin film transistor via said conductive film.

10. An electro-optical device comprising:

a first substrate having an insulating surface;

a second substrate opposing said first substrate;

at least one thin film transistor formed on said insulating surface, said thin film transistor comprising source, drain and channel regions;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor;

an organic resin film provided over said thin film transistor and said interlayer insulating film; and

a pixel electrode formed over said organic resin film and connected to said thin film transistor through an opening provided in said organic resin film,

wherein said interlayer insulating film is located between said organic resin film and at least said channel region of the thin film transistor,

wherein said thin film transistor comprises silicon and exhibits a peak of Raman spectra, displaced from 522 cm^{-1}.

11. A device according to claim 10 wherein said pixel electrode is a transparent conductive film.

12. A device according to claim 10 wherein said inorganic material comprises silicon oxide.

13. A device according to claim 10 wherein said channel region comprises a material selected from the group consisting of silicon, germanium and a combination thereof.

14. A device according to claim 10 wherein said interlayer insulating film is 0.2 to 0.6 μm thick.

15. A device according to claim 10 consisting of 640 x 480 pixels arranged in a matrix form.

16. A device according to claim 10 consisting of 1260 x 960 pixels arranged in a matrix form.

17. A device according to claim 10 further comprising a conductive film formed on said interlayer insulating film and electrically connected to said thin film transistor through a contact hole formed in said interlayer insulating film.

18. A device according to claim 17 wherein said pixel electrode is connected to said thin film transistor via said conductive film.

19. An electro-optical device comprising:

a first substrate having an insulating surface;

a second substrate opposing said first substrate;

at least one thin film transistor formed on said insulating surface, said thin film transistor comprising:

a crystalline semiconductor layer having source, drain and channel regions;

a gate insulating layer adjacent to said channel region; and

a gate electrode adjacent to said channel region;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor; and

an organic resin film provided over said thin film transistor and said interlayer insulating film;

wherein said interlayer insulating film is located between said organic resin film and at least said channel region of the thin film transistor,

wherein said thin film transistor comprises silicon and exhibits a peak of Raman spectra, displaced from a peak of single crystalline silicon.

20. A device according to claim 19 further comprising a pixel electrode formed over said organic resin film and connected to said thin film transistor through an opening provided in said organic resin film.

21. A device according to claim 20 wherein said pixel electrode is a transparent conductive film.

22. A device according to claim 19 wherein said inorganic material comprises silicon oxide.

23. A device according to claim 19 wherein said channel region comprises a material selected from the group consisting of silicon, germanium and a combination thereof.

24. A device according to claim 19 wherein said gate insulating film is 500Å to 2000Å thick.

25. A device according to claim 19 wherein said interlayer insulating film is 0.2 to 0.6 μm thick.

26. A device according to claim 19 consisting of 640 x 480 pixels arranged in a matrix form.

27. A device according to claim 19 consisting of 1260 x 960 pixels arranged in a matrix form.

28. A device according to claim 19 wherein said crystalline semiconductor layer has an electron mobility not lower than 15 cm^2/Vsec.

29. A device according to claim 19 wherein said crystalline semiconductor layer has a hole mobility not lower than 10 cm^2/Vsec.

30. A device according to claim 19 further comprising a conductive film formed on said interlayer insulating film and electrically connected to said thin film transistor through a contact hole formed in said interlayer insulating film.

31. A device according to claim 30 wherein said pixel electrode is connected to said thin film transistor via said conductive film.

32. An electro-optical device comprising:

a first substrate having an insulating surface;

a second substrate opposing said first substrate;

at least one thin film transistor formed on said insulating surface, said thin film transistor comprising:

a crystalline semiconductor layer having source, drain and channel regions;

a gate insulating layer adjacent to said channel region;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor; and

an organic resin film provided over said thin film transistor and said interlayer insulating film;

wherein said interlayer insulating film is located between said organic resin film and at least said channel region of the thin film transistor, and

wherein said semiconductor layer comprises silicon and exhibits a peak of Raman spectra, displaced from 522 cm^{-1}.

33. A device according to claim 32 further comprising a pixel electrode formed over said organic resin film and connected to said thin film transistor through an opening provided in said organic resin film.

34. A device according to claim 33 wherein said pixel electrode is a transparent conductive film.

35. A device according to claim 32 wherein said inorganic material comprises silicon oxide.

36. A device according to claim 32 wherein said channel region comprises a material selected from the group consisting of silicon, germanium and a combination thereof.

37. A device according to claim 32 wherein said gate insulating film is 500Å to 2000Å thick.

38. A device according to claim 32 wherein said interlayer insulating film is 0.2 to 0.6 μm thick.

39. A device according to claim 32 consisting of 640 x 480 pixels arranged in a matrix form.

40. A device according to claim 32 consisting of 1260 x 960 pixels arranged in a matrix form.

41. A device according to claim 32 wherein said crystalline semiconductor layer has an electron mobility not lower than 15 cm^2/Vsec.

42. A device according to claim 32 wherein said crystalline semiconductor layer has a hole mobility not lower than 10 cm^2/Vsec.

43. A device according to claim 32 further comprising a conductive film formed on said interlayer insulating film and electrically connected to said thin film transistor through a contact hole formed in said interlayer insulating film.

44. A device according to claim 43 wherein said pixel electrode is connected to said thin film transistor via said conductive film.

45. An electro-optical device comprising:

a first substrate having an insulating surface;

a second substrate opposing said first substrate;

at least an n-channel thin film transistor and at least a p-channel thin film transistor both formed over said first substrate, each of said n-channel and p-channel thin film transistors comprising:

a crystalline semiconductor layer having source, drain and channel regions;

a gate insulating layer adjacent to said channel region; and

a gate electrode adjacent to said channel region;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor; and

an organic resin film provided over said thin film transistor and said interlayer insulating film;

wherein said interlayer insulating film is located between said organic resin film and at least said channel region of the thin film transistor,

wherein said thin film transistor comprises silicon and exhibits a peak of Raman spectra, displaced from a peak of single crystalline silicon.

46. A device according to claim 45 further comprising a pixel electrode formed over said organic resin film and connected to said thin film transistor through an opening provided in said organic resin film.

47. A device according to claim 46 wherein said pixel electrode is a transparent conductive film.

48. A device according to claim 45 wherein said inorganic material comprises silicon oxide.

49. A device according to claim 45 wherein said channel region comprises a material selected from the group consisting of silicon, germanium and a combination thereof.

50. A device according to claim 45 wherein said gate insulating film is 500Å to 2000Å thick.

51. A device according to claim 45 wherein said interlayer insulating film is 0.2 to 0.6 μm thick.

52. A device according to claim 45 consisting of 640 x 480 pixels arranged in a matrix form.

53. A device according to claim 45 consisting of 1260 x 960 pixels arranged in a matrix form.

54. A device according to claim 45 wherein said crystalline semiconductor layer has an electron mobility not lower than 15 $cm^2/Vsec$.

55. A device according to claim 45 wherein said crystalline semiconductor layer has a hole mobility not lower than 10 $cm^2/Vsec$.

56. A device according to claim 45 further comprising a conductive film formed on said interlayer insulating film and electrically connected to said thin film transistor through a contact hole formed in said interlayer insulating film.

57. A device according to claim 56 wherein said pixel electrode is connected to said thin film transistor via said conductive film.

58. A device according to claim 1, wherein said organic resin film comprises polyimide.

59. A device according to claim 10, wherein said organic resin film comprises polyimide.

60. A device according to claim 19, wherein said organic resin film comprises polyimide.

61. A device according to claim 32, wherein said organic resin film comprises polyimide.

62. A device according to claim 45, wherein said organic resin film comprises polyimide.

63. A device according to claim 1, wherein said channel region comprises boron at concentration in a range of 1×10^{15} - 1×10^{18} cm^{-3}.

64. A device according to claim 10, wherein said channel region comprises boron at concentration in a range of 1×10^{15} - 1×10^{18} cm^{-3}.

65. A device according to claim 19, wherein said channel region comprises boron at concentration in a range of 1×10^{15} - 1×10^{18} cm^{-3}.

66. A device according to claim 32, wherein said channel region comprises boron at concentration in a range of 1×10^{15} - 1×10^{18} cm^{-3}.

67. A device according to claim 45, wherein said channel region of each of the n-channel and p-channel thin film transistors comprises boron at concentration in a range of 1×10^{15} - 1×10^{18} cm^{-3}.

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